

Form PTO-1449 (modified)		Atty. Docket No.: 11762.0284.CNUS01	Serial No.: 09/923,058
List of Patents and Publications for Applicant's  INFORMATION DISCLOSURE STATEMENT  (Use several sheets if necessary)		Applicants: David S. Becker, et al.	
		Filing Date: August 6, 2001	Group: 1763
U.S. Patent Documents See Page 1	Foreign Patent Documents See Pages 1- 2	Other Art See Pages 2-3	

## U.S. Patent Documents

Exam. Init.	Ref. Des.	Document Number	Date	Name	Class	Sub Class	Filing Date of App.
gag	A1	4,283,249	08/11/1981	Ephrath, L.M.	156	643	08/17/1979
	A2	4,352,724	10/5/1982	Sugishima, et al.	204	192	11/19/1980
	A3	4,371,407	02/01/1983	Kurosawa, K.	148	187	10/28/1981
	A4	4,461,672	07/24/1984	Musser, M.E.	156	644	11/18/1982
	A5	4,522,681	06/11/1985	Gorowitz, et al.	156	643	04/23/1984
	A6	4,952,274	08/28/1990	Abraham, T.	156	643	05/27/1988
	A7	4,966,870	10/30/1990	Barber, et al.	437	228	08/08/1989
	A8	5,176,790	01/05/1993	Arleo, et al.	156	643	09/25/1991
	A9	5,200,358	04/06/1993	Bollinger, et al.	437	180	11/15/1991
	A10	5,244,837	09/14/1993	Dennison, C.H.	437	195	03/19/1993
	A11	5,290,726	03/01/1994	Kim, H.S.	437	52	02/18/1992
	A12	5,298,463	03/29/1994	Sandhu, et al.	437	192	04/16/1992
	A13	5,302,236	04/12/1994	Tahara, et al.	156	643	10/18/1991
	A14	5,321,211	06/14/1994	Haslam, et al.	174	262	04/30/1992
	A15	5,338,700	08/16/1994	Dennison, et al.	437	60	04/14/1993
	A16	5,366,590	11/22/1994	Kadomura, S.	156	662	03/17/1994
gag	A17	5,372,969	12/13/1994	Moslehi, M. M.	437	195	03/03/1992
	A18						

## Foreign Patent Documents

Exam. Init.	Ref. Des.	Document Number	Date	Country	Class	Sub Class	Translation Yes/No
gag	B1	JP58053833	03/30/1983	Japan	<del>B01L</del>	<del>54302</del>	<del>Abstract only</del>
	B2	JP60143633	07/29/1985	Japan			

EXAMINER:

George Gaudreau

DATE CONSIDERED:

5-031

EXAMINER: INITIAL IF REFERENCE CONSIDERED, WHETHER OR NOT CITATION IS IN CONFORMANCE WITH MPEP609; DRAW LINE THROUGH CITATION IF NOT IN CONFORMANCE AND NOT CONSIDERED. INCLUDE COPY OF THIS FORM WITH NEXT COMMUNICATION TO APPLICANT.

INFORMATION DISCLOSURE STATEMENT — PTO-1449 (MODIFIED)

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Exam. Init.	Ref. Des.	Document Number	Date	Country	Class	Sub Class	Translation Yes/No
	B3	JP02198634	08/07/1990	Japan	B01J	23/24	<del>Abstract only</del>
	B4	JP03262503	11/22/1991	Japan	B01D	19/00	<del>Abstract only</del>
	B5	JP04180222	06/26/1992	Japan	H01L	21/302	<del>Abstract only</del>
	B6	JP04298032	10/21/1992	Japan	H01L	21/302	<del>Abstract only</del>
	B7						

### Other Art (Including Author, Title, Date Pertinent Pages, Etc.)

Exam. Init.	Ref. Des.	Citation
	C1	Vossen, J.L.; Cuomo, J.J., "Glow Discharge Sputter Deposition", in <i>Thin Film Processes</i> , Vossen, J.L.; Kern, W., Eds.; Academic Press, New York: 1978; pp. 11-73.
	C2	Coburn, J.W.; Kay, E., "Some Chemical Aspects of the Fluorocarbon Plasma Etching of Silicon and Its Compounds", <i>IBM J. Res. Develop.</i> 1979, Vol. 23(1); 33-41.
	C3	Toyoda, H.; Komiya, H.; Itakura, H., "Etching Characteristics of SiO <sub>2</sub> in CHF <sub>3</sub> Gas Plasma", <i>J. Electronic Mat.</i> 1980, Vol. 9(3); 569-584.
	C4	Flamm, D.L.; Donnelly, V.M., "The Design of Plasma Etchants", <i>Plasma Chemistry and Plasma Processing</i> 1981, Vol. 1(4); 317-363.
	C5	Kusters, K.H.; Sesselmann, W.; Melzner, H.; Friesel, B., "A Self Aligned Contact Process with Improved Surface Planarization", <i>Journal de Physique</i> 1988, Vol. 49, Colloque C4, Suppl. 9; C4503 - C4506.
	C6	Chang, E.Y.; van Hove, J.M.; Pande, K.P., "A Selective Dry-Etch Technique for GaAs MESFET Gate Recessing", <i>IEEE Trans. Electron. Devices</i> 1988, Vol. 35(10); 1580-1584.
	C7	Nojiri, K.; Iguchi, E.; Kawamura, K.; Kadota, K., "Microwave Plasma Etching of Silicon Dioxide for Half-Micron ULSIs", in <i>Extended Abstracts of the 21<sup>st</sup> Conference on Solid State Devices and Materials</i> , Tokyo, 1989; pp. 153-156.
	C8	Grande, W.J.; Johnson, J.E.; Tang, C.L., "Characterization of Etch Rate and Anisotropy in the Temperature-Controlled Chemically Assisted Ion Beam Etching of GaAs", <i>J. Vac. Sci. Technol. B</i> , 1990, Vol. 8(5); 1075-1079.

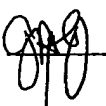
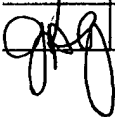
EXAMINER: George Goudreau DATE CONSIDERED: 5-03'

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U.S. Patent Documents <i>See Page 1</i>	Foreign Patent Documents <i>See Pages 1- 2</i>	Other Art <i>See Pages 2-3</i>	

### Other Art (Including Author, Title, Date Pertinent Pages, Etc.)

Exam. Init.	Ref. Des.	Citation
	C9	Simko, J.P.; Oehrlein, G.S., "Reactive Ion Etching of Silicon and Silicon Dioxide in CF <sub>4</sub> Plasmas Containing H <sub>2</sub> or C <sub>2</sub> F <sub>4</sub> Additives", <i>J. Electrochem. Soc.</i> 1991, Vol. 138 (9); 2748-2752.
	C10	Marks, J.; Collins, K.; Yang, C.L.; Groechel, D.; Keswick, P.; Cunningham, C.; Carlson, M., "Introduction of a New High Density Plasma Reactor Concept for High Aspect Ratio Oxide Etching", <i>SPIE</i> Vol. 1803 (1992); pp. 235-247.
	C11	Sakai, T.; Hayashi, H.; Abe, J.; Horioka, K.; Okano, H., "Examination of Selective Etching and Etching Damage with Mass-Selected Ion Beam", <i>1993 Dry Process Symposium</i> ; 193-198.
	C12	Preliminary Invalidity Contentions regarding Parent Patent 5,286,344, filed in <i>Sandisk Corp. v. Micron Tech., Inc.</i> , Civ. No. CV02-2627CW (N. D. Cal.).
	C13	Preliminary Invalidity Contentions regarding Parent Patent 6,015,760, filed in <i>Sandisk Corp. v. Micron Tech., Inc.</i> , Civ. No. CV02-2627CW (N. D. Cal.).
	C14	Preliminary Invalidity Contentions regarding Parent Patent 6,287,978, filed in <i>Sandisk Corp. v. Micron Tech., Inc.</i> , Civ. No. CV02-2627CW (N. D. Cal.).
	C15	

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### U.S. Patent Documents

Exam. Init.	Ref. Des.	Document Number	Date	Name	Class	Sub Class	Filing Date of App.
gag	A1	5,772,832	06/30/98	Collins, et al.	156	345	04/04/97
	A2	5,888,414	03/30/99	Collins, et al.	216	68	09/24/97
	A3	6,194,325	02/27/01	Yang, et al.	438	740	12/04/95
	A4	5,880,037	03/09/99	Arleo, P.	438	740	10/09/97
	A5	5,477,975	12/26/95	Rice, et al.	216	68	10/15/93
	A6	5,556,501	09/17/96	Collins, et al.	156	345	04/04/93
	A7	6,184,150	02/06/01	Yang, et al.	438	740	10/27/97
	A8	5,562,801	10/08/96	Nulty, J.E.	156	643.1	12/07/94
	A9	4,350,578	09/21/82	Frieser, et al.	204	192 R	05/11/81
	A10	4,368,092	01/11/83	Steinberg, et al.	156	345	08/05/81
	A11	4,377,438	03/22/83	Moriya, et al.	156	643	09/22/81
	A12	4,401,054	08/30/83	Matsuo, et al.	118	723	04/27/81
	A13	4,492,620	01/08/85	Matsuo, et al.	204	192 R	09/09/83
	A14	4,511,430	04/16/85	Chen, et al.	156	643	01/30/84
	A15	4,675,073	06/23/87	Douglas, M.	156	643	03/07/86
	A16	4,711,698	12/08/87	Douglas, M.	156	643	07/15/85
	A17	4,778,561	10/18/88	Ghanbari, E.	156	643	10/30/87
	A18	4,807,016	02/21/89	Douglas, M.	357	67	11/20/87
	A19	4,918,031	04/17/90	Flamm, et al.	437	225	12/28/88
	A20	4,948,458	08/14/90	Ogle, J.S.	156	643	08/14/89
	A21	5,091,326	02/25/92	Haskell, J.D.	437	43	09/12/90
	A22	5,269,879	12/14/93	Rhoades, et al.	156	643	10/16/91
	gag	A23	5,296,095	03/22/94	Nabeshima, et al.	156	662

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gag	A24	5,429,710	07/04/95	Akiba, et al.	216	17	02/16/94
	A25	5,468,342	11/21/95	Nulty, et al.	156	643.1	04/28/94
	A26	5,503,901	04/02/96	Sakai, et al.	428	161	06/29/94
gag	A27	5,880,036	03/09/99	Becker, et al.	438	740	11/15/93
	A28						
	A29						

### Foreign Patent Documents

Exam. Init.	Ref. Des.	Document Number	Date	Country	Class	Sub Class	Translation Yes/No
	B1	0520519 A1	12/30/92	EPO			Yes
	B2	55009464	01/23/80	Japan	H01L	27/08	Abstract Only
	B3	0 050 972 A2	05/05/82	EPO	H01L	21/88	Yes
	B4	57210631	12/24/82	Japan	H01L	21/302	Abstract Only
	B5	60111474	06/17/85	Japan	H01L	29/80	Abstract Only
	B6	61-224423	10/06/86	Japan	H01L	21/302	Abstract Only
	B7	0 265 584 A2	04/05/88	EPO	H01L	21/31	Yes
	B8	2 175 542 A	12/03/86	United Kingdom	C23F	1/02	Yes
	B9	2062038	03/01/90	Japan	H01L	21/302	Abstract Only
	B10	0 552 490 A1	07/28/93	EPO	H01L	21/311	Yes
	B11	0 644 584 A1	03/22/95	EPO	H01L	21/311	Yes
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### Other Art (Including Author, Title, Date Pertinent Pages, Etc.)

Exam. Init.	Ref. Des.	Citation
	C1	Watanabe, S., "Plasma Cleaning by Use of Hollow-Cathode Discharge in a CHF <sub>3</sub> -SiO <sub>2</sub> Dry-Etching System", <i>Japanese J. Appl. Physics</i> 1992, 31; 1491-1498.
	C2	Yasuaki Nagahiro, "Self-Aligned Contact Development Activity Increases Aimed for Large Scale Manufacturing Around 0.25 Mm Era Problem of Etching Technology: Improvement of Si <sub>3</sub> N <sub>4</sub> Selectivity Ratio", <i>Nikkei Microdevices</i> , Feb. 1995, pp. 54-61.
	C3	Gottschlo, R.A., "Recent Developments in Plasma Processing", AT&T Bell Laboratories, 1994, <i>American Vacuum Society Symposium</i> , p. 120.
	C4	Nulty, J.E.; Trammel, P.S., "Self-Aligned Contact (SAC) Dry Etch Process of 0.5m SRAM Technology", 1994 <i>American Vacuum Society Symposium</i> , p. 120.
	C5	"The Correlation Between Selective Oxide Etching and Thermodynamic Prediction", S.C. McNevin, AT&T Bell Laboratories, 1994 <i>American Vacuum Society Symposium</i> , p. 120.
	C6	"High Rate and Highly Selective SiO <sub>2</sub> Etching Employing Inductively Coupled Plasma", Y. Honike; K. Kubota; T. Fukazawa, Tokyo University, 1994 <i>American Vacuum Society Symposium</i> , p. 120.
	C7	Yin, G.Z.; Ben-Dor, M.; Chang, M.S.; Yep, T.O. "High-Selectivity Plasma Etching of Silicon Dioxide on Single-Wafer Etchers", <i>Journal of Vacuum Science &amp; Technology A</i> 1989, A7(3); 691-695.
	C8	Bariya, A.J.; Shan, H.; Frank, C.W.; Self, S.A.; McVittie, J.P., "The Etching of CHF <sub>3</sub> Plasma Polymer in Fluorine-Containing Discharges", <i>Journal of Vacuum Science and Technology B</i> 1991, 9 (1); 1-7.
	C9	Machida, K.; Oikawa, H., "SiO <sub>2</sub> Planarization Technology with Biasing and Electron Cyclotron Resonance Plasma Deposition for Submicron Interconnections", <i>Journal of Vacuum Science and Technology B</i> 1986, 4; 818-821.
	C10	Anonymous, "Selective Reactive Ion Etch for Silicon Oxide Over Silicon Nitride", <i>Research Disclosure</i> 1989, 301; 340.
	C11	Moss, S.J., et al. Eds. "Plasma Etching", in <i>The Chemistry of the Semiconductor Industry</i> , New York: Blackie & Son Ltd., 1987, pp. 374-378.
	C12	D'Agostino, R., "Summary Abstract: Mechanisms of Polymerization in Discharges of Fluorocarbons", <i>Journal of Vacuum Science and Technology A</i> 1985, 3 (6); 2627-2628.

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Exam. Init.	Ref. Des.	Citation
	C13	Riley, P.E.; Hanson, D.A., "Comparison of Etch Rates of Silicon Nitride, Silicon Dioxide, and Polycrystalline Silicon Upon O <sub>2</sub> Dilution of CF <sub>4</sub> Plasmas", <i>Journal of Vacuum Science and Technology B</i> 1989, 7(6); 1352-1356.
	C14	Oehrlein, G.S.; Lee, Y.H., "Reactive Ion Etching Related Si Surface Residues and Subsurface Damage: Their Relationship to Fundamental Etching Mechanisms", <i>Journal of Vacuum Science and Technology A</i> 1987, 5 (4); 1585-1594.
	C15	Gilboa, H.; Hata, W.; O'Donnell, K., "Nondestructive Characterization of RIE Induced Radiation Damage Using Surface Accoustic Waves", <i>Mat. Res. Soc. Symp. Proc.</i> 1985, 38 511-517.
	C16	Truesdale, B.A.; Smolinsky, G.; Mayer, T.M., "The Effect of Added Acetylene on the RF Discharge Chemistry of C <sub>2</sub> F <sub>6</sub> , A Mechanistic Model for Fluorocarbon Plasmas", <i>J. Applied Physics</i> 1980, 51(5); 2909-2913.
	C17	Norström, H.; Buchta, R.; Rupovc, F.; Wiklund, P., "RIE of SiO <sub>2</sub> in Doped and Undoped Fluorocarbon Plasmas", <i>Vacuum</i> 1982, 32 (12); 737-745.
	C18	Coburn, J.W., "Increasing the Etch Ratio of SiO <sub>2</sub> /Si in Fluorocarbon Plasma Etching", <i>IBM Technical Disclosure, Bulletin</i> 1977, 19 (10); 3854.
	C19	Arends, H.T.; DeVries, C.A.M.; van Roosmalen, A.J.; Puylaert, G.C.C., "Mass Spectrometry and Reactive Ion Etching of Silicon Nitride (Si <sub>3</sub> N <sub>4</sub> ), Silicon Dioxide, and Silicon in Freon on Various Electrode Materials", in <i>Symposium Proceedings—International Symposium of Plasma Chemistry</i> , Vol. 3, 7 <sup>th</sup> Ed.; Eindhoven Publishers: 1985; 1007-1012.
	C20	

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Substitute for form 1449A/PTO				<b>Complete if Known</b>	
				Application Number	(filed herewith)
<b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b>				Filing Date	August 6, 2001
				First Named Inventor	Becker et al.
				Group Art Unit	1763
				Examiner Name	George Goldrean
(use as many sheets as necessary)				Attorney Docket Number	11762.0284.CNUS01
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U.S. PATENT DOCUMENTS						
Examiner Initials *	Cite No. <sup>1</sup>	U.S. Patent Document		Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number	Kind Code <sup>2</sup> (if known)			
gag	A1	4,734,157		Carbaugh et al.	03-29-1988	
	A2	4,789,560		Yen	12-08-1988	
	A3	4,877,641		Dory	10-31-1989	
	A4	4,324,611		Vogel et al.	04-13-1982	
	A5	4,912,061		Nasr	03-27-1990	
	A6	4,568,410		Thomquist	02-04-1986	
	A7	3,479,237		Bergh et al.	11-18-1969	
	A8	4,971,655		Stefano et al.	11-20-1990	
	A9	5,013,398		Long et al.	05-07-1991	
	A10	5,040,046		Chhabra et al.	08-13-1991	
	A11	4,244,752		Henderson et al.	01-13-1981	
	A12	4,374,698		Sanders et al.	02-22-1983	
	A13	4,581,101		Senoue et al.	04-08-1986	
	A14	5,043,790		Butler	08-27-1991	
	A15	5,013,692		Ide et al.	05-7-1991	
	A16	4,978,420		Bach	12-18-1990	
	A17	4,180,432		Clark	12-25-1979	
	A18	4,734,152		Geis et al.	03-29-1988	
	A19	5,021,121		Groechel et al.	06-04-1991	
gag	A20	4,439,270		Powell et al.	03-27-1984	

FOREIGN PATENT DOCUMENTS								
Examiner Initials*	Cite No. <sup>1</sup>	Foreign Patent Document			Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T <sub>6</sub>
		Office <sup>3</sup>	Number <sup>4</sup>	Kind Code <sup>5</sup> (if known)				
	B1	JP	58-53833		Okano	03-30-1998		
	B2	JP	1-15930		Omoto	01-19-1989		
	B3	JP	2-62038		Kadomura	03-01-1990		
	B4	JP	4-298032		Nabeshima	10-21-1992		
	B5	JP	4-180222		Mashiro	06-28-1992		
	B6	EP	661434		Yank et al.	06-03-1995		

Examiner Signature	George Goldrean	Date Considered	9-03/
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\* EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

<sup>1</sup> Unique citation designation number. <sup>2</sup> See attached Kinds of U.S. Patent Documents. <sup>3</sup> Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). <sup>4</sup> For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. <sup>5</sup> Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. <sup>6</sup> Applicant is to place a check mark here if English language Translation is attached.



**Complete if Known**

*(use as many sheets as necessary)*

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First Named Inventor	Becker et al.
Group Art Unit	1763
Examiner Name	Gouldman
Attorney Docket Number	11762.0284.CNUS01

U.S. PATENT DOCUMENTS						
Examiner Initials *	Cite No. <sup>1</sup>	U.S. Patent Document		Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number	Kind Code <sup>2</sup> (if known)			
GPA	A21	5,376,233		Man	12-27-1994	
	A22	5,338,398		Szwejkowski et al.	8-16-1994	
	A23	5,316,616		Nakamura et al.	05-31-1994	
	A24	5,470,768		Yanai et al.	11-28-1995	
	A25	4,892,753		Wang et al.	01-09-1990	
	A26	4,870,245		Price et al.	09-26-1989	
	A27	5,423,945		Marks et al.	06-13-1995	
	A28	5,242,538		Hamrah et al.	09-07-1993	
	A29	5,451,290		Salfelder	09-19-1995	
	A30	5,556,501		Collins et al.	09-17-1996	
	A31	5,477,975		Rice et al.	12-26-1995	
	A32	5,286,344		Blalock et al.	02-15-1994	
	A33	5,093,277		Arima et al.	03-03-1992	
	A34	4,241,165		Hughes et al.	12-23-1980	
GPA	A35	4,439,270		Powell et al.	03-27-1984	
	A36	5,286,667		Lin et al.	02-15-1994	
	A37	5,364,804		Ho et al.	11-15-1994	
	A38					
	A39					
	A40					

[illegible]

9-03

H: 447652(9L#S01!.DOC)

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Substitute for form 1449A/PTO  <h2 style="text-align: center; margin: 0;">INFORMATION DISCLOSURE STATEMENT BY APPLICANT</h2> <p style="text-align: center; margin-top: 10px;">(use as many sheets as necessary)</p>				<b>Complete if Known</b>	
Application Number		(filed herewith)			
Filing Date		August 6, 2001			
First Named Inventor		Becker et al.			
Group Art Unit		1763			
Examiner Name		Goudreau			
Attorney Docket Number		11762.0284.CNUS01			

Sheet	3	of	5
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OTHER PRIOR ART – NON PATENT LITERATURE DOCUMENTS			
Examiner Initials *	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	† <sup>2</sup>
	C1	"Grown-Shaped Capacitor Cell for 1.5V. Operation 65 Mb DRAMS" (Toru Kage, et al.) IEEE Transactions on Electron Devices, vol. 38, No. 2. 1991.	
	C2	"VLSI Device Fabricator Using Unique, Highly-selective Si3N4 Dry Etching" (T. Kur et al.) Proceeding of the International Electron Devices Meeting (IEDM), 1983, pp. 757-759.	
	C3	"Formation of Contacts in a Planarized SiO2/Si3N4/SiO2 Dielectric Structure" (Paul E. Riley, Konrad K. Youn, and Charles C. Liu) J. Electrochem Soc. vol. 139, No 9 Sep. 1992.	
	C4	A method of obtaining a high oxide to nitride selectivity in an MERIE Reactor, by David S. Becker, Guy Blalock, 1993 Symposium of Dielectric Science and Technology and Electronics Divisions of The Electrochemical Society, vol. 93-21, pp. 178-189 (May 19, 1993).	
	C5	"Selective Oxide: Nitride Dry Etching in a High Density Plasma Reactor" by M. Amocost, J. Marks, 1993 Symposium of Dielectric Science and Technology and Electronics Divisions of The Electrochemical Society, vol. 93-21, pp. 190-200 (May 19, 1993).	
	C6	"Self-Aligned Bitline Contact for 4 Mbit Dram", K.H. Kuesters, H.M. Mueklhoff, G. Enders, E.G. Mohr, W. Mueller, pp. 640-649, 1987.	
	C7	"A Buried-Plate Trench Cell for a 64-Mb Dram", Kenney et al., 1992 Symposium of VLSI, IEEE.	
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	C9	"High-Rate and Highly Selective Etching of SiO2 Using Microwave Plasma", M. Nawata, Y. Kakehi, S. Kanai, Y. Kawasaki, K. Tsunokuni, and H. Enami, 183rd Meeting Electrochemical Society, Honolulu, Hawaii, pp. 228-234 (1993).	
	C10	"Influence of Reactant Transport on Fluorine RIE of Deep Trenches in Si", J.C. Arnold, D.C. Gray and H. H. Swain, J. Vac. Sci. Technol. B vol. 11, No. 6, pp. 2071-2080 (Nov. 1993).	
	C11	"Influence of Different Etching Mechanisms on the Angular Dependence of Si3N4 Etching", A.M. Barklund and H.O. Blom, J. Vac. Sci. Technol. A vol. 11, No. 4, pp. 1226-1229, (Jul. 1993).	

Examiner Signature		Date Considered	9-031
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<sup>1</sup> Unique citation designation number. <sup>2</sup> Applicant is to place a check mark here if English language Translation is attached.

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<b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b>  (use as many sheets as necessary)		Application Number	(filed herewith)
		Filing Date	August 6, 2001
		First Named Inventor	Becker et al.
		Group Art Unit	1763
		Examiner Name	Goldman
Sheet 4 of 5	Attorney Docket Number	11762.0284.CNUS01	

OTHER PRIOR ART – NON PATENT LITERATURE DOCUMENTS			
Examiner Initials *	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>2</sup>
	C12	"Mass Spectrometric Studies of Plasma Etching of Si3N4", P.E. Clarke, D. Field, A.J. Hydes, D.F. Klemperer and M.J. Seakins, J. Vac. Sci. Technol. B vol. 3, No. 6, pp. 1614-1619, Nov. 1985).	
	C13	"Microtrench Formation in Polysilicon Plasma Etching Over Thin Gate Oxide", T.J. Dalton, J.C. Arnold, H.H. Sawin, S. Swan, and D. Corliss, J. Electrochem. Soc., vol. 140, No. 8, pp. 2395-2401 (Aug. 1993).	
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	C18	"Suppression of Microloading Effect by Low-Temperature SiO2 Etching," M. Sato, D. Takerhara, K. Uda, K. Sakiyama and T. Hara, Jpn J. Appl. Phys., vol. 31, No. 12B, pp. 4370-4375 (Dec. 1992).	
	C19	"Novel Surface Reaction Model in Dry-Etching A. Misaka, K. Harafuji, M. Kubota and N. Nomura, Process Simulator," Jpn. J. Appl. Phys., vol. 31, Pt. 1, No. 12B, pp. 4363-4369, (Dec. 1992).	
	C20	"Silicon Etching Mechanisms in a CF4/H2 Glow Discharge," G.S. Oehrlein and H.L. Williams, J. Appl. Phys., vol. 62, No. 2, pp. 662-672 (Jul. 1987).	
	C21	"SiO2 Tapered Etching Employing Magnetron Discharge of Fluorocarbon Gas," T. Ohiwa, K. Honoka, T. Arikado, I. Hasegawa and H. Okano, Jpn. J. Appl. Phys., vol. 31, Pt. 1, No. 2A, pp. 405-410 (1992).	
	C22	"Gas Mixing to Prevent Polymer Formation During Reactive Ion Etching", Bondur et al., IBM Tech. Disclosure Bulletin, vol. 21, No. 10, Mar. 1979, pp. 4016.	

Examiner Signature	George Goldman	Date Considered	9-031
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Substitute for form 1449A/PTO		<b>Complete if Known</b>	
<b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b>  (use as many sheets as necessary)		Application Number	(filed herewith)
		Filing Date	August 6, 2001
		First Named Inventor	Becker et al.
		Group Art Unit	
		Examiner Name	
Sheet 5 of 5	Attorney Docket Number	11762.0284.CNUS01	

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	C23	Plasma Cleaning by Use of Hollow-Cathode Discharge In A Trifluoromethane-Silicon Dioxide Dry Etching System, Watanabe, Feb. 1992, Japanese Journal of Applied Physics, Part 1, 31 (5A), pp. 1491-1498. *	
	C24	Loewenstein, "Temperature Dependence of Silicon Nitride Etching by Atomic Fluorine", American Institute of Physics, 1989, vol. 65, No. 1, pp. 386-387.	
	C25	Loewenstein, "Selective Etching of Silicon Nitride Using Remote Plasmas of CF <sub>4</sub> and SF <sub>6</sub> ", American Vacuum Society, 1989, vol. 7, No. 3, pp. 686-690.	
	C26	Yasuaki Nagahiro, "Self Aligned Contact Development Activity Increases Aimed for Large Scale Manufacturing Around 0.25 Mm Era Problem of Etching Technology: Improvement of Si3N4 Selectivity Ratio", Nikkei Microdevices, Feb. 1995, pp. 54-61. *	
	C27	"Gas Mixing to Prevent Polymer Formation During Reactive Ion Etching", J.A. Bondur and C.F. Crimi, IBM Technical Disclosure Bulletin, Vol. 21, No. 10, Mar. 1979.	
	C28	"Developments in Plasma Processing", R.A. Gottscho, AT&T Bell Labs, 1994 American Vacuum Society Symposium, p. 120. *	
	C29	"Self-Aligned Contact (SAC) Dry Etch Process of 0.5u SRAM Technology", J.E. Nulty, P.S. Trammell, Cypress Semiconductor, 1994 American Vacuum Society Symposium, p. 120. *	
	C30		
	C31		
	C32		
	C33		

Examiner Signature	George Goudreau	Date Considered	9-03'
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\* ~~copy~~ Copies not included. Will send in an supplemental IDS.  
- TERRIL LEWIS, 46,065.

## List of Patents and Publications for Applicant's

## INFORMATION DISCLOSURE STATEMENT

(Use several sheets if necessary)

Atty. Docket No.:

11762.0284.CNUS01

Serial No.:

09/923,058

Applicants:

David S. Becker, et al.

Filing Date:

August 6, 2001

Group:

1763

U.S. Patent Documents

See Pages 1-3

Foreign Patent Documents

See Pages 3-4

Other Art

See Pages 4-8

## U.S. Patent Documents

Exam. Init.	Ref. Des.	Document Number	Date	Name	Class	Sub Class	Filing Date of App.
999	A1	3,479,237	11/18/1969	Bergh, et al.	156	11	04/08/66
	A2	4,180,432	12/25/1979	Clark	156	643	12/19/77
	A3	4,241,165	12/23/1980	Hughes, et al.	430	269	09/05/78
	A4	4,244,752	01/13/1981	Henderson, et al.	148	1.5	03/06/79
	A5	4,324,611	04/13/1982	Vogel, et al.	156	643	06/26/80
	A6	4,350,578	09/21/1982	Frieser, et al.	204	192 R	05/11/81
	A7	4,368,092	01/11/1983	Steinberg, et al.	156	345	08/05/81
	A8	4,374,698	02/22/1983	Sanders, et al.	156	643	07/09/81
	A9	4,377,438	03/22/1983	Moriya, et al.	156	643	09/22/81
	A10	4,401,054	08/30/1983	Matsuo, et al.	118	723	04/27/81
	A11	4,439,270	03/27/1984	Powell, et al.	156	644	08/08/83
	A12	4,492,620	01/08/1985	Matsuo, et al.	204	192 R	09/09/83
	A13	4,511,430	04/16/1985	Chen, et al.	156	643	01/30/84
	A14	4,568,410	02/04/1986	Thornquist	156	643	12/20/84
	A15	4,581,101	04/08/1986	Senoue, et al.	156	643	10/04/84
	A16	4,675,073	06/23/1987	Douglas, M.	156	643	03/07/86
	A17	4,711,698	12/08/1987	Douglas, M.	156	643	07/15/85
	A18	4,734,152	03/29/1988	Geis, et al.	156	646	07/13/87
	A19	4,734,157	03/29/1988	Carbaugh, et al.	156	643	03/18/87
	A20	4,778,561	10/18/1988	Ghanbari, E.	156	643	10/30/87
	A21	4,789,560	12/06/1988	Yen	427	96	01/08/86
999	A22	4,807,016	02/21/1989	Douglas, M.	357	67	11/20/87

EXAMINER:

George Goudreau

DATE CONSIDERED:

9-03

EXAMINER: INITIAL IF REFERENCE CONSIDERED, WHETHER OR NOT CITATION IS IN CONFORMANCE WITH MPEP609; DRAW LINE THROUGH CITATION IF NOT IN CONFORMANCE AND NOT CONSIDERED. INCLUDE COPY OF THIS FORM WITH NEXT COMMUNICATION TO APPLICANT.

INFORMATION DISCLOSURE STATEMENT — PTO-1449 (MODIFIED)

Form PTO-1449 (modified)

Atty. Docket No.:

11762.0284.CNUS01

Serial No.:

09/923,058

List of Patents and Publications for Applicant's

Applicants:

David S. Becker, et al.

INFORMATION DISCLOSURE STATEMENT

Filing Date:

August 6, 2001

Group:

1763

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U.S. Patent Documents

See Pages 1-3

Foreign Patent Documents

See Pages 3-4

Other Art

See Pages 4-5

## U.S. Patent Documents

Exam. Init.	Ref. Des.	Document Number	Date	Name	Class	Sub Class	Filing Date of App.
gag	A23	4,870,245 ✓	09/26/1989	Price, et al.	219	121.36	04/01/85
	A24	4,877,641 ✓	10/31/1989	Dory	427	38	05/31/88
	A25	4,892,753 ✓	01/09/1990	Wang, et al.	427	38	10/26/88
	A26	4,912,061 ✓	03/27/1990	Nasr	437	44	04/04/88
	A27	4,918,031 ✓	04/17/1990	Flamm, et al.	437	225	12/28/88
	A28	4,948,458 ✓	08/14/1990	Ogle, J.S.	156	643	08/14/89
	A29	4,971,655 ✓	11/20/1990	Stefano, et al.	156	659.1	12/26/89
	A30	4,978,420 ✓	12/18/1990	Bach	156	643	01/03/90
	A31	5,013,398 ✓	05/07/1991	Long, et al.	156	643	05/29/90
	A32	5,013,692 ✓	05/07/1991	Ide, et al.	437	241	12/05/89
	A33	5,021,121 ✓	06/04/1991	Groechel, et al.	156	643	02/16/90
	A34	5,040,046 ✓	08/13/1991	Chhabra, et al.	357	54	10/09/90
	A35	5,043,790 ✓	08/27/1991	Butler	357	68	04/05/90
	A36	5,091,326 ✓	02/25/1992	Haskell, J.D.	437	43	09/12/90
	A37	5,093,277 ✓	03/03/1992	Arima, et al.	437	69	03/02/90
	A38	5,242,538 ✓	09/07/1993	Hamrah, et al.	156	643	01/29/92
	A39	5,269,879 ✓	12/14/1993	Rhoades, et al.	156	643	10/16/91
	A40	5,286,344 ✓	02/15/1994	Blalock, et al.	156	657	06/15/92
	A41	5,286,667 ✓	02/15/1994	Lin, et al.	437	52	08/11/92
	A42	5,296,095 ✓	03/22/1994	Nabeshima, et al.	156	662	10/30/91
	A43	5,316,616 ✓	05/31/1994	Nakamura, et al.	156	643	05/27/93
gag	A44	5,338,398 ✓	08/16/1994	Szwejkowski, et al.	156	655	12/23/92

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gpg	A45	5,364,804	11/15/1994	Ho, et al.	437	41	11/03/93
	A46	5,376,233	12/27/1994	Man	156	662	12/30/92
	A47	5,423,945	06/13/1995	Marks, et al.	156	662.1	09/08/92
	A48	5,429,710	07/04/1995	Akiba, et al.	216	17	02/16/94
	A49	5,451,290	09/19/1995	Salfelder	216	67	02/11/93
	A50	5,468,342	11/21/1995	Nulty, et al.	156	643.1	04/28/94
	A51	5,470,768	11/28/1995	Yanai, et al.	437	40	08/05/93
	A52	5,477,975	12/26/1995	Rice, et al.	216	68	10/15/93
	A53	5,503,901	04/02/1996	Sakai, et al.	428	161	06/29/94
	A54	5,556,501	09/17/1996	Collins, et al.	156	345	04/01/93
	A55	5,562,801	10/08/1996	Nulty, J.E.	156	643.1	12/07/94
	A56	5,772,832	06/30/1998	Collins, et al.	156	345	04/04/97
	A57	5,880,036	03/09/1999	Becker, et al.	438	740	11/15/93
	A58	5,880,037	03/09/1999	Arleo, P.	438	740	10/09/97
	A59	5,888,414	03/30/1999	Collins, et al.	216	68	09/24/97
	A60	6,184,150	02/06/2001	Yang, et al.	438	740	10/27/97
gpg	A61	6,194,325	02/27/2001	Yang, et al.	438	740	12/04/95

## Foreign Patent Documents

Exam. Init.	Ref. Des.	Document Number	Date	Country	Class	Sub Class	Translation
gpg	B1	55009464	01/23/1980	Japan	MOL	20708	Abstract Only
gpg	B2	0 050 972 A2	05/05/1982	EPO	1101	21788	Yes

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George Goudreau

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Exam. Init.	Ref. Des.	Document Number	Date	Country	<del>Class</del>	<del>Pub</del>	<del>Abstract</del>
<i>gag</i>	B3	57210631	12/24/1982	Japan	<del>HO12</del>	<del>2570</del>	<del>Abstract Only</del>
	B4	60111474	06/17/1985	Japan	<del>HO12</del>	<del>2570</del>	<del>Abstract Only</del>
	B5	61-224423	10/06/1986	Japan	<del>HO12</del>	<del>2570</del>	<del>Abstract Only</del>
	B6	0 265 584 A2	05/04/1988	EPO	<del>HO12</del>	<del>2570</del>	<del>Abstract Only</del>
	B7	2 175 542 A	12/03/1986	United Kingdom	<del>HO12</del>	<del>1002</del>	<del>Yes</del>
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	B11	4-298032	10/21/1992	Japan	<del>HO12</del>	<del>2570</del>	<del>Abstract Only</del>
	B12	0 520 519 A1	12/30/1992	EPO	<del>HO12</del>	<del>2570</del>	<del>Yes</del>
	B13	0 552 490 A1	07/28/1993	EPO	<del>HO12</del>	<del>2570</del>	<del>Yes</del>
	B14	0 644 584 A1	03/22/1995	EPO	<del>HO12</del>	<del>2570</del>	<del>Yes</del>
	B15	0 651 434 A2	05/03/1995	EPO	<del>HO12</del>	<del>2570</del>	<del>Yes</del>
<i>gag</i>	B16	58-53833	03/30/1983	Japan	<del>HO12</del>	<del>2570</del>	<del>Abstract Only</del>

## Other Art (Including Author, Title, Date Pertinent Pages, Etc.)

Exam. Init.	Ref. Des.	Citation
<i>gag</i>	C1	Watanabe, S., "Plasma Cleaning by Use of Hollow-Cathode Discharge in a CHF <sub>3</sub> -SiO <sub>2</sub> Dry-Etching System", <i>Japanese J. Appl. Physics</i> 1992, 31; 1491-1498.
	C2	Yasuaki Nagahiro, "Self-Aligned Contact Development Activity Increases Aimed for Large Scale Manufacturing Around 0.25 Mm Era Problem of Etching Technology: Improvement of Si <sub>3</sub> N <sub>4</sub> Selectivity Ratio", <i>Nikkei Microdevices</i> , Feb. 1995, pp. 54-61.
<i>gag</i>	C3	Gottscho, R.A., "Recent Developments in Plasma Processing", AT&T Bell Laboratories, 1994, <i>American Vacuum Society Symposium</i> , p. 120.

EXAMINER:

George Goudreau

DATE CONSIDERED:

9-031

EXAMINER: INITIAL IF REFERENCE CONSIDERED, WHETHER OR NOT CITATION IS IN CONFORMANCE WITH MPEP609; DRAW LINE THROUGH CITATION IF NOT IN CONFORMANCE AND NOT CONSIDERED. INCLUDE COPY OF THIS FORM WITH NEXT COMMUNICATION TO APPLICANT.

INFORMATION DISCLOSURE STATEMENT — PTO-1449 (MODIFIED)

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Form PTO-1449 (modified)

Atty. Docket No.:

11762.0284.CNUS01

Serial No.:

09/923,058

List of Patents and Publications for Applicant's

Applicants:

David S. Becker, et al.

Filing Date:

August 6, 2001

Group:

1763

INFORMATION DISCLOSURE STATEMENT

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(Use several sheets if necessary)

U.S. Patent Documents

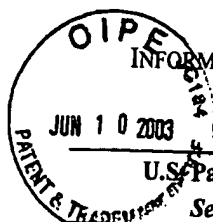
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Foreign Patent Documents

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Other Art

See Pages 4-8



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gag	C4	Nulty, J.E.; Trammel, P.S., "Self-Aligned Contact (SAC) Dry Etch Process of 0.5m SRAM Technology", 1994 American Vacuum Society Symposium, p. 120. ✓
	C5	"The Correlation Between Selective Oxide Etching and Thermodynamic Prediction", S.C. McNevin, AT&T Bell Laboratories, 1994 American Vacuum Society Symposium, p. 120. ✓
	C6	Horiike, Y.; Kubota K.; Fukazawa T., "High Rate and Highly Selective SiO <sub>2</sub> Etching Employing Inductively Coupled Plasma", Tokyo University, 1994 American Vacuum Society Symposium, p. 120. ✓
	C7	Yin, G.Z.; Ben-Dor, M.; Chang, M.S.; Yep, T.O. "High-Selectivity Plasma Etching of Silicon Dioxide on Single-Wafer Etchers", <i>Journal of Vacuum Science &amp; Technology A</i> 1989, A7(3); 691-695. ✓
	C8	Bariya, A.J.; Shan, H.; Frank, C.W.; Self, S.A.; McVittie, J.P., "The Etching of CHF <sub>3</sub> Plasma Polymer in Fluorine-Containing Discharges", <i>Journal of Vacuum Science and Technology B</i> 1991, 9 (1); 1-7. ✓
	C9	Machida, K.; Oikawa, H., "SiO <sub>2</sub> Planarization Technology with Biasing and Electron Cyclotron Resonance Plasma Deposition for Submicron Interconnections", <i>Journal of Vacuum Science and Technology B</i> 1986, 4; 818-821. ✓
	C10	Anonymous, "Selective Reactive Ion Etch for Silicon Oxide Over Silicon Nitride", <i>Research Disclosure</i> 1989, 301; 340. ✓
	C11	Móss, S.J., et al. Eds. "Plasma Etching", in <i>The Chemistry of the Semiconductor Industry</i> , New York: Blackie & Son Ltd., 1987, pp. 374-378. ✓
	C12	D'Agostino, R., "Summary Abstract: Mechanisms of Polymerization in Discharges of Fluorocarbons", <i>Journal of Vacuum Science and Technology A</i> 1985, 3 (6); 2627-2628. ✓
	C13	Riley, P.E.; Hanson, D.A., "Comparison of Etch Rates of Silicon Nitride, Silicon Dioxide, and Polycrystalline Silicon Upon O <sub>2</sub> Dilution of CF <sub>4</sub> Plasmas", <i>Journal of Vacuum Science and Technology B</i> 1989, 7(6); 1352-1356. ✓
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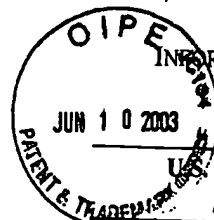
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gag	C15	Gilboa, H.; Hata, W.; O'Donnell, K., "Nondestructive Characterization of RIE Induced Radiation Damage Using Surface Acoustic Waves", <i>Mat. Res. Soc. Symp. Proc.</i> 1985, 38 511-517. ✓
	C16	Truesdale, B.A.; Smolinsky, G.; Mayer, T.M., "The Effect of Added Acetylene on the RF Discharge Chemistry of C <sub>2</sub> F <sub>6</sub> , A Mechanistic Model for Fluorocarbon Plasmas", <i>J. Applied Physics</i> 1980, 51(5); 2909-2913. ✓
	C17	Norström, H.; Buchta, R.; Runovc, F.; Wiklund, P., "RIE of SiO <sub>2</sub> in Doped and Undoped Fluorocarbon Plasmas", <i>Vacuum</i> 1982, 32 (12); 737-745. ✓
	C18	Coburn, J.W., "Increasing the Etch Ratio of SiO <sub>2</sub> /Si in Fluorocarbon Plasma Etching", <i>IBM Technical Disclosure, Bulletin</i> 1977, 19 (10); 3854. ✓
	C19	Arends, H.T.; DeVries, C.A.M.; van Roosmalen, A.J.; Puylaert, G.C.C., "Mass Spectrometry and Reactive Ion Etching of Silicon Nitride (Si <sub>3</sub> N <sub>4</sub> ), Silicon Dioxide, and Silicon in Freon on Various Electrode Materials", in <i>Symposium Proceedings—International Symposium of Plasma Chemistry</i> , Vol. 3, 7 <sup>th</sup> Ed.; Eindhoven Publishers: 1985; 1007-1012. ✓
	C20	Clarke, P.E.; Field, D.; Hydes, A.J.; Klemper, D.F.; Seakins, M.J., "Mass Spectrometric Studies of Plasma Etching of Silicon Nitride", <i>Journal of Vacuum Science and Technology, B</i> , Vol. 3, No. 6 (November, 1985), pp. 1614-1619. ✓
	C21	Dalton, T.J.; Arnold, J.C.; Sawin, H.H.; Swan, S.; Corliss, D., "Microtrench Formation in Polysilicon Plasma Etching Over Thin Gate Oxide", <i>Journal of the Electrochemical Society</i> , Vol. 140, no. 8 (August, 1993), pp. 2395-2401. ✓
	C22	Hikosaka, Y.; Sugai, H., "Radical Kinetics in a Fluorocarbon Etching Plasma", <i>Japanese Applied Physics</i> , Vol. 32, no. 6 (June, 1993), pp. 3040-3044. ✓
	C23	Li, Y.X.; Laros, M.; Sarro, P.M.; French, P.J.; Wolffenbuttel, R.F., "Plasma Etching of Polysilicon/Nitride/Polysilicon Sandwich Structure for Sensor Applications", <i>Microelectronic Engineering</i> , Vol. 21 (1993), pp. 341-344. ✓
gag	C24	Lindstrom, J.L.; Oehrlein, G.S.; Lanford, W.A., "RIE of Silicon Nitride Deposited by Different Methods in CF <sub>4</sub> /H <sub>2</sub> Plasmas", <i>Journal of the Electrochemical Society</i> , Vol. 139, No. 1 (January, 1992), pp. 317-320. ✓

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gag	C25	Samukawa, S., "Time-Modulated ECR Plasma Discharge for Controlling Polymerization in SiO <sub>2</sub> Etching", <i>Jpn. Journal of Applied Physics</i> , Vol. 32, part 1, no. 12B (December, 1993), pp. 6080-6087. ✓
	C26	Sato, M.; Takehara, D.; Uda, K.; Sakiyama, K.; Hara, T., "Suppression of Microloading Effect by Low-Temperature SiO <sub>2</sub> Etching", <i>Jpn. Journal of Applied Physics</i> , Vol. 31, no. 12B (December, 1992), pp. 4370-4375. ✓
	C27	Misaka, A.; Harafuji, K.; Kubota, M.; Nomura, N., "Novel Surface Reaction Model in Dry-Etching Process Stimulator", <i>Jpn. Journal of Applied Physics</i> , Vol. 31, Pt. 1, No. 12B (December, 1992), pp. 4363-4369. ✓
	C28	Gottlieb, S.; Oehrlein, G.S.; Williams, H.L., "Silicon Etching Mechanisms in a CF <sub>4</sub> /H <sub>2</sub> Glow Discharge", <i>Journal of Applied Physics</i> , Vol. 62, no. 2 (July, 1987), pp. 662-672. ✓
	C29	Ohiwa, T.; Horioka, K.; Arikado, T.; Hasegawa, I.; Okano, H., "SiO <sub>2</sub> Tapered Etching Employing Magnetron Discharge of Fluorocarbon Gas", <i>Jpn. Journal of Applied Physics</i> , Vol. 31, Pt. 1, no. 2A (1992), pp. 405-410. ✓
	C30	Bondur, et al., "Gas Mixing to Prevent Polymer Formation During Reactive Ion Etching", <i>IBM Technical Disclosure Bulletin</i> , Vol. 21, no. 10 (March, 1979), p. 4016. ✓
	C31	Kaga, T., et al., "Crown-Shaped Capacitor Cell for 1.5 V Operation 65 Mb DRAM's", <i>IEEE Transactions on Electronic Devices</i> , Vol. 38, no. 2 (1991), pp. 225-261. ✓
	C32	Kure, T., et al., "VLSI Device Fabrication Using Unique, Highly-Selective Si <sub>3</sub> N <sub>4</sub> Dry Etching", <i>Proceedings of the International Electron Devices Meeting (IEDM)</i> , 1983, pp. 757-759. ✓
	C33	Riley, P.E.; Young, K.K.; Liu, C.C., "Formation of Contacts in a Planarized SiO <sub>2</sub> /Si <sub>3</sub> N <sub>4</sub> /SiO <sub>2</sub> Dielectric Structure", <i>Journal of the Electrochemical Society</i> , Vol. 139, no. 9 (September, 1992), pp. 2613-2616. ✓
	C34	Becker, D.S.; Blalock, G., "A Method of Obtaining a High Oxide to Nitride Selectivity in an MERIE Reactor", 1993 Symposium of the Dielectric Science and Technology and Electronics Divisions of the Electrochemical Society, Vol. 93-21 (May 19, 1993), pp. 178-189. ✓
gag	C35	Armocost, M.; Marks, J.; C.I. Yang, "Selective Oxide: Nitride Dry Etching in a High Density Plasma Reactor", Symposium of Dielectric Science and Technology and Electronics Divisions of the Electrochemical Society, Vol. 93-21, (May 19, 1993), pp. 190-200. ✓

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See Pages 4-8

## Other Art (Including Author, Title, Date Pertinent Pages, Etc.)

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gag	C36	Kuesters, K.H.; Muekhoff, H.M.; Enders, G.; Mohr, E.G.; Mueller, W., "Self-Aligned Bitline Contact for 4-Mbit DRAM", Extended Abstracts, The Electrochemical Society, Vol. 87-1 (1987), pp. 640-649.
	C37	Kenney, et al., "A Buried-Plate Trench Cell for a 64-Mb DRAM", 1992 Symposium of VLSI, IEEE.
	C38	Kusters, K.H.; Enders, G.; Meyberg, W.; Benzinger, H.; Hasler, B.; Higelin, G.; Rohl, S.; Muhlhoff, H.M.; Muller, W., "A High Density 4 Mbit DRAM Process Using a Fully Overlapping Bitline Contact (FoBIC) Trench Cell", 1987 Symposium on VLSI Technology Digest of Technical Papers, pp. 93-94.
	C39	Nawata, M.; Kakehi, Y.; Kanai, S.; Kawasaki, Y.; Tsunokuni, K.; Enami, H., "High-Rate and Highly Selective Etching of SiO <sub>2</sub> Using Microwave Plasma", 183 <sup>rd</sup> Meeting Electrochemical Society, Honolulu, Hawaii 1993, pp. 228-234.
	C40	Arnold, J.C.; Gray, D.C.; Swain, H.H., "Influence of Reactant Transport on Fluorine RIE of Deep Trenches in Si", Journal of Vacuum Science and Technology, B., Vol. 11, no. 6 (November, 1993), pp. 2071-2080.
	C41	Barklund, A.M.; Blom, H.O., "Influence of Different Etching Mechanisms on the Angular Dependence of Silicon Nitride Etching", Journal of Vacuum Science and Technology, A., Vol. 11, no. 4 (July 1993), pp. 1226-1229.
	C42	Loewenstein, "Temperature Dependence of Silicon Nitride Etching by Atomic Fluorine", Journal of Applied Physics, Vol. 65, no. 1 (1989), pp. 386-387.
	C43	Loewenstein, "Selective Etching of Silicon Nitride Using Remote Plasmas of CF <sub>4</sub> and SF <sub>6</sub> ", Journal Vac. Sci. Technology, Vol. 7, no. 3 (1989), pp. 686-690.
	C44	Bondur, J.A.; Crimi, C.F., "Gas Mixing to Prevent Polymer Formation During Reactive Ion Etching", IBM Technical Disclosure Bulletin, Vol. 21, no. 10 (March, 1979).
gag	C45	Complaint for Declaratory Relief, filed in Sandisk Corp. v. Micron Tech., Inc., Case No. C-02-2627VRW (N. D. Cal.).

EXAMINER:

George Goudreau

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INFORMATION DISCLOSURE STATEMENT — PTO-1449 (MODIFIED)

Form PTO-1449 (modified)		Atty. Docket No.: 11762.0284.CNUS01	Serial No.: 09/923,058
List of Patents and Publications for Applicant's  INFORMATION DISCLOSURE STATEMENT  (Use several sheets if necessary)		Applicants: David S. Becker, <i>et al.</i>	
		Filing Date: August 6, 2001	Group: 1763
U.S. Patent Documents <i>See Page 1</i>	Foreign Patent Documents <i>See Page 1</i>	Other Art <i>See Page 1</i>	

## U.S. Patent Documents

Exam. Init.	Ref. Des.	Document Number	Date	Name	Class	Sub Class	Filing Date of App.
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## Foreign Patent Documents

Exam. Init.	Ref. Des.	Document Number	Date	Country	Class	Sub Class	Translation Yes/No
1	B1						

## Other Art (Including Author, Title, Date Pertinent Pages, Etc.)

Exam. Init.	Ref. Des.	Citation
gag	C1	Complaint for Declaratory Relief, filed in <i>Sandisk Corp. v. Micron Tech., Inc.</i> , Case. No. C-02-2627VRW (N. D. Cal.).
	C2	

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List of Patents and Publications for Applicant's

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102-0072US-4Serial No.  
09/923,058Inventor/Applicant:  
Becker, et al. / Micron Technology, Inc.Title: METHODS FOR ENHANCING SILICON  
DIOXIDE TO SILICON NITRIDE  
SELECTIVITY (*as previously amended*)Filing Date:  
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1763

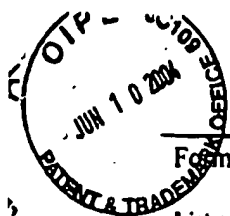
## U.S. Patent Documents

Exam. Init.	Ref. Des.	Document Number	Date	Name	Class	Sub Class	Filing Date of App.
gmg	A1	3,479,237 ✓	11/18/1969	Bergh, et al.	156	11	04/08/66
	A2	4,180,432 ✓	12/25/1979	Clark	156	643	12/19/77
	A3	4,241,165 ✓	12/23/1980	Hughes, et al.	430	269	09/05/78
	A4	4,244,752	01/13/1981	Henderson, et al.	148	1.5	03/06/79
	A5	4,283,249 ✓	08/11/1981	Ephrath, L.M.	156	643	08/17/1979
	A6	4,324,611 ✓	04/13/1982	Vogel, et al.	156	643	06/26/80
	A7	4,350,578 ✓	09/21/82	Frieser, et al.	204	192 R	05/11/81
	A8	4,352,724 ✓	10/5/1982	Sugishima, et al.	204	192	11/19/1980
	A9	4,368,092 ✓	01/11/83	Steinberg, et al.	156	345	08/05/81
	A10	4,371,407 ✓	02/01/1983	Kurosawa, K.	148	187	10/28/1981
	A11	4,374,698 ✓	02/22/1983	Sanders, et al.	156	643	07/09/81
	A12	4,377,438	03/22/1983	Moriya, et al.	156	643	09/22/81
	A13	4,401,054	08/30/1983	Matsuo, et al.	118	723	04/27/81
	A14	4,439,270 ✓	03/27/1984	Powell, et al.	156	644	08/08/83
	A15	4,461,672	07/24/1984	Musser, M.E.	156	644	11/18/1982
	A16	4,492,620	01/08/1985	Matsuo, et al.	204	192 R	09/09/83
	A17	4,511,430 ✓	04/16/85	Chen, et al.	156	643	01/30/84
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EXAMINER: George Goudreau DATE CONSIDERED: 8-041

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gag	A21	4,675,073	06/23/87	Douglas, M.	156	643	03/07/86
	A22	4,711,698	12/08/1987	Douglas, M.	156	643	07/15/85
	A23	4,734,152 ✓	03/29/1988	Geis, et al.	156	646	07/13/87
	A24	4,734,157	03/29/1988	Carbaugh, et al.	156	643	03/18/87
	A25	4,778,561	10/18/88	Ghanbari, E.	156	643	10/30/87
	A26	4,789,560	12/06/1988	Yen	427	96	01/08/86
	A27	4,807,016 ✓	02/21/89	Douglas, M.	357	67	11/20/87
	A28	4,870,245	09/26/1989	Price, et al.	219	121.36	04/01/85
	A29	4,877,641	10/31/1989	Dory	427	38	05/31/88
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	A34	4,952,274	08/28/1990	Abraham, T.	156	643	05/27/1988
	A35	4,966,870	10/30/1990	Barber, et al.	437	228	08/08/1989
	A36	4,971,655	11/20/1990	Stefano, et al.	156	659.1	12/26/89
	A37	4,978,420	12/18/1990	Bach	156	643	01/03/90
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	A39	5,013,692	05/07/1991	Ide, et al.	437	241	12/05/89
	A40	5,021,121 ✓	06/04/1991	Groechel, et al.	156	643	02/16/90
	A41	5,040,046 ✓	08/13/1991	Chhabra, et al.	357	54	10/09/90
gag	A42	5,043,790	08/27/1991	Butler	357	68	04/05/90

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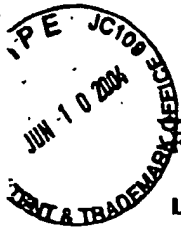
## U.S. Patent Documents

Exam. Init.	Ref. Des.	Document Number	Date	Name	Class	Sub Class	Filing Date of App.
gag	A43	5,091,326	02/25/1992	Haskell, J.D.	437	43	09/12/90
	A44	5,093,277	03/03/1992	Arima, et al.	437	69	03/02/90
	A45	5,176,790	01/05/1993	Arleo, et al.	156	643	09/25/1991
	A46	5,200,358	04/06/1993	Bollinger, et al.	437	180	11/15/1991
	A47	5,242,538	09/07/1993	Hamrah, et al.	156	643	01/29/92
	A48	5,244,837	09/14/1993	Dennison, C.H.	437	195	03/19/1993
	A49	5,269,879	12/14/93	Rhoades, et al.	156	643	10/16/91
	A50	5,286,344	02/15/1994	Blalock, et al.	156	657	06/15/92
	A51	5,286,667	02/15/1994	Lin, et al.	437	52	08/11/92
	A52	5,290,726	03/01/1994	Kim, H.S.	437	52	02/18/1992
	A53	5,296,095	03/22/94	Nabeshima, et al.	156	662	10/30/91
	A54	5,298,463	03/29/1994	Sandhu, et al.	437	192	04/16/1992
	A55	5,302,236	04/12/1994	Tahara, et al.	156	643	10/18/1991
	A56	5,316,616	05/31/1994	Nakamura, et al.	156	643	05/27/93
	A57	5,321,211	06/14/1994	Haslam, et al.	174	262	04/30/1992
	A58	5,338,398	08/16/1994	Szwejkowski, et al.	156	655	12/23/92
	A59	5,338,700	08/16/1994	Dennison, et al.	437	60	04/14/1993
	A60	5,364,804	11/15/1994	Ho, et al.	437	41	11/03/93
gag	A61	5,366,590	11/22/1994	Kadomura, S.	156	662	03/17/1994

EXAMINER: George Gould ream DATE CONSIDERED: 8-041

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Form PTO-1449 (modified)

List of Patents and Publications for Applicant's

## INFORMATION DISCLOSURE STATEMENT

(Use several sheets if necessary)

Atty. Docket No.  
102-0072US-4Serial No.  
09/923,058Inventor/Applicant:  
Becker, et al. / Micron Technology, Inc.Title: METHODS FOR ENHANCING SILICON  
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SELECTIVITY (as previously amended)Filing Date:  
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1763

## U.S. Patent Documents

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gag	A62	5,372,969	12/13/1994	Moslehi, M. M.	437	195	03/03/1992
	A63	5,376,233	12/27/1994	Man	156	662	12/30/92
	A64	5,423,945	06/13/1995	Marks, et al.	156	662.1	09/08/92
	A65	5,429,710	07/04/1995	Akiba, et al.	216	17	02/16/94
	A66	5,451,290	09/19/1995	Salfelder	216	67	02/11/93
	A67	5,468,342	11/21/1995	Nulty, et al.	156	643.1	04/28/94
	A68	5,470,768	11/28/1995	Yanai, et al.	437	40	08/05/93
	A69	5,477,975	12/26/95	Rice, et al.	216	68	10/15/93
	A70	5,503,901	04/02/96	Sakai, et al.	428	161	06/29/94
	A71	5,556,501	09/17/96	Collins, et al.	156	345	04/04/93
	A72	5,562,801	10/08/96	Nulty, J.E.	156	643.1	12/07/94
	A73	5,772,832	06/30/1998	Collins, et al.	156	345	04/04/97
	A74	5,880,036	03/09/1999	Becker, et al.	438	740	11/15/93
	A75	5,880,037	03/09/99	Arleo, P.	438	740	10/09/97
	A76	5,888,414	03/30/1999	Collins, et al.	216	68	09/24/97
	A77	6,184,150	02/06/2001	Yang, et al.	438	740	10/27/97
	A78	6,194,325	02/27/2001	Yang, et al.	438	740	12/04/95
	A79	5,439,846	08/08/1995	Nguyen, et al.	437	187	12/17/93
	A80	5,731,242	03/24/1998	Parat, et al.	438	586	11/14/95
gag	A81	5,554,557	09/10/1996	Koh, Chao-Ming	437	52	02/02/96

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## Foreign Patent Documents

Exam. Init.	Ref. Des.	Document Number	Date	Country	Class	Sub Class	Translation Yes/No
gag	B1	0 050 972 A2	05/05/1982	EPO	H01L	21/88	Yes ✓
	B2	0 265 584 A2	04/05/88	EPO	H01L	21/31	Yes ✓
	B3	0 520 519 A1	12/30/1992	EPO	H01J	37/32	Yes ✓
	B4	0 552 490 A1	07/28/1993	EPO	H01L	21/311	Yes ✓
	B5	0 644 584 A1	03/22/1995	EPO	H01L	21/311	Yes ✓
	B6	0 651 434 A2	05/03/1995	EPO	H01L	21/311	Yes ✓
	B7	01-015930	01/19/1989	Japan	H01L	21/302	Abstract Only ✓
	B8	2 175 542 A	12/03/1986	United Kingdom	C23F	1/02	Yes ✓
	B9	2-62038	03/01/90	Japan	H01L	21/302	Abstract Only ✓
	B10	JP60143633	07/29/1985	Japan	H01L	21/302	Abstract only ✓
	B11	4-298032	10/21/1992	Japan	H01L	21/302	Abstract Only ✓
	B12	55009464	01/23/80	Japan	H01L	27/08	Abstract Only ✓
	B13	57210631	12/24/82	Japan	H01L	21/302	Abstract Only ✓
	B14	58-53833	03/30/1983	Japan	H01L	21/302	Abstract Only ✓
	B15	60111474	06/17/1985	Japan	H01L	29/80	Abstract Only ✓
	B16	61-224423	10/06/1986	Japan	H01L	21/302	Abstract Only ✓
	B17	0 777 267	10/31/1996	EP	H01L	21/311	yes ✓
	B18	JP02198634	08/07/1990	Japan	B01J	23/24	Abstract only ✓
	B19	JP03262503	11/22/1991	Japan	B01D	19/00	Abstract only ✓
	B20	JP04180222	06/26/1992	Japan	H01L	21/302	Abstract only ✓
	B21	JP04298032	10/21/1992	Japan	H01L	21/302	Abstract only ✓
gag	B22	JP58053833	03/30/1983	Japan	H01L	21/302	Abstract only ✓

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## Other Art (Including Author, Title, Date Pertinent Pages, Etc.)

Exam. Init.	Ref. Des.	Citation	
	C1	D. Kenney et al., "A Buried-Plate Trench Cell for a 64-Mb DRAM," 1992 Symposium of VLSI, IEEE, pp. 14-15 (1992).	✓
	C2	K.H. Kusters et al., "A High Density 4Mbit DRAM Process Using a Fully Overlapping Bitline Contact (FoBIC) Trench Cell," Corporate Research and Technology, 1987 Symposium on VLSI Technology Digest of Technical Papers, pp. 93-94 (1987).	✓
	C3	J.A. Bondur & C.F. Crimi, "Gas Mixing to Prevent Polymer Formation During Reactive Ion Etching," IBM Technical Disclosure Bulletin, Vol. 21, No. 10, pg. 4016 (Mar. 1979).	✓
	C4	Bondur, J.A. & Schwartz, S.M., "Selective Reactive Ion Etching of Silicon Compounds," IBM Tech. Disclosure Bulletin, Vol. 21, No. 10, pg. 4015 (Mar. 1979).	✓
	C5	M. Nawata et al., "High-Rate and Highly Selective Etching of SiO <sub>2</sub> Using Microwave Plasma," 183rd Meeting Electrochemical Society, Honolulu, Hawaii, pp. 228-234 (1993).	✓
	C6	A.M. Barklund & H.O. Blum, "Influence of Different Etching Mechanisms on the Angular Dependence of Si <sub>3</sub> N <sub>4</sub> Etching," J. Vac. Sci. Technol. A, Vol. 11, No. 4, pp. 1226-1229 (Jul. 1993).	✓
	C7	J.C. Arnold et al., "Influence of Reactant Transport on Fluorine RIE of Deep Trenches in Si," J. Vac. Sci. Technol. B, Vol. 11, No. 6, pp. 2071-2080 (Nov. 1993).	✓
	C8	P.E. Clarke et al., "Mass Spectrometric Studies of Plasma Etching of Si <sub>3</sub> N <sub>4</sub> ," J. Vac. Sci. Technol. B, Vol. 3, No. 6, pp. 1614-1619 (Nov. 1985).	✓
	C9	T.J. Dalton et al., "Microtrench Formation in Polysilicon Plasma Etching Over Thin Gate Oxide," J. Electrochem. Soc., Vol. 140, No. 8, pp. 2395-2401 (Aug. 1993).	✓
	C10	A. Mikasa et al., "Novel Surface Reaction Model in Dry-Etching Process Simulator," Jpn. J. Appl. Phys., Vol. 31, Pt. 1, No. 12B, pp. 4363-4369 (Dec. 1992).	✓
	C11	Y.X. Li et al., "Plasma Etching of Polysilicon/Nitride/Polysilicon Sandwich Structure for Sensor Applications," Microelectron. Engrg., 21, pp. 341-344 (1993).	✓
	C12	Y. Hikosaka & H. Sugai, "Radical Kinetics in a Fluorocarbon Etching Plasma," Jpn. Appl. Phys., Vol. 32, No. 6, pp. 3040-3044 (Jun. 1993).	✓
	C13	J.L. Lindstrom et al., "Reactive Ion Etching of Silicon Nitride Deposited by Different Methods in CF <sub>4</sub> /H <sub>2</sub> Plasmas," J. Electrochem. Soc., Vol. 139, No. 1, pp. 317-320 (Jan. 1992).	✓
	C14	K.H. Kuesters et al., "Self-Aligned Bitline Contact for 4 Mbit DRAM," pp. 640-649, 1987 (journal/book unknown).	✓
	C15	G.S. Oehrlein & H.L. Williams, "Silicon Etching Mechanisms in a CF <sub>4</sub> /H <sub>2</sub> Glow Discharge," J. Appl. Phys., Vol. 62, No. 2, pp. 662-672 (Jul. 1987).	✓
	C16	S.C. McNevin, "The Correlation Between Selective Oxide Etching and Thermodynamic Prediction," AT&T Bell Laboratories, 1994 American Vacuum Society Symposium, p. 120.	✓

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List of Patents and Publications for Applicant's

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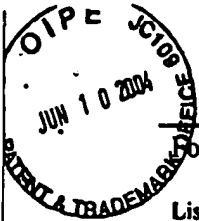
## Other Art (Including Author, Title, Date Pertinent Pages, Etc.)

Exam. Init.	Ref. Des.	Citation
gag	C17	T. Kure et al., "VLSI Device Fabrication Using Unique, Highly-selective Si <sub>3</sub> N <sub>4</sub> Dry Etching," Proceeding of the International Electron Devices Meeting (IEDM), pp. 757-759 (1983). ✓
	C18	D.S. Becker & G. Blalock, "A method of obtaining a high oxide to nitride selectivity in an MERIE Reactor," 1993 Symposium of Dielectric Science and Technology and Electronics Divisions of The Electrochemical Society, Vol. 93-21, pp. 178-189 (May 19, 1993). ✓
	C19	Anonymous, "Selective Reactive Ion Etch for Silicon Oxide Over Silicon Nitride," Research Disclosure, No. 30159, pg. 340 (May 1989). ✓
	C20	H.T. Arends et al., "Mass Spectrometry and Reactive Ion Etching of Silicon Nitride (Si <sub>3</sub> N <sub>4</sub> ), Silicon Dioxide, and Silicon in Freon on Various Electrode Materials," in <i>Symposium Proceedings—International Symposium of Plasma Chemistry</i> , Vol. 3, 7 <sup>th</sup> Ed.(Eindrove pubs.), pp. 1007-1012 (1985). ✓
	C21	M. Armacost et al., "Selective Oxide: Nitride Dry Etching in a High Density Plasma Reactor," Symposium of Dielectric Science and Technology and Electronics Divisions of the Electrochemical Society, Vol. 93-21, pp. 190-200 (May 19, 1993). ✓
	C22	A.J. Bariya et al., "The Etching of CHF <sub>3</sub> Plasma Polymer in Fluorine-Containing Discharges," <i>Journal of Vacuum Science and Technology B</i> , Vol. 9, No. 1, pp. 1-7 (1991). ✓
	C23	E.Y. Chang et al., "A Selective Dry-Etch Technique for GaAs MESFET Gate Recessing," <i>IEEE Trans. Electron. Devices</i> , Vol. 35, No. 10, pp. 1580-84 (1988).
	C24	J. W. Coburn, "Increasing the Etch Ratio of SiO <sub>2</sub> /Si in Fluorocarbon Plasma Etching," <i>IBM Technical Disclosure Bulletin</i> , Vol. 19, No. 10, pg. 3854 (1977).
	C25	J.W. Coburn & E. Kay, "Some Chemical Aspects of the Fluorocarbon Plasma Etching of Silicon and Its Compounds," <i>IBM J. Res. Develop.</i> , Vol. 23, No. 1, pp. 33-41 (1979).
	C26	Complaint for Declaratory Relief, filed in <i>Sandisk Corp. v. Micron Tech., Inc.</i> , Case No. C-02-2627VRW (N. D. Cal. May 31, 2002).
	C27	R. D'Agostino, "Summary Abstract: Mechanisms of Polymerization in Discharges of Fluorocarbons," <i>J. Vacuum Sci. &amp; Tech.</i> , Vol. 3, No. 6, pp. 2627-28 (1985).
	C28	D.L. Flamm & V.M. Donnelly, "The Design of Plasma Etchants," <i>Plasma Chemistry and Plasma Processing</i> , Vol. 1, No. 4, pp. 317-63 (1981).
gag	C29	H. Gilboa et al., "Nondestructive Characterization of RIE Induced Radiation Damage Using Surface Acoustic Waves," <i>Mat. Res. Soc. Symp. Proc.</i> , Vol. 38, pp. 511-17 (1985).

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Exam. Init.	Ref. Des.	Citation
	C30	G.S. Oehrlein & Y.H. Lee, "Reactive Ion Etching Related Si Surface Residues and Subsurface Damage: Their Relationship to Fundamental Etching Mechanisms," J. Vacuum Sci. & Tech. A, Vol. 5, No. 4, pp. 1585-94 (1987).
	C31	W.J. Grande et al., "Characterization of Etch Rate and Anisotropy in the Temperature-Controlled Chemically Assisted Ion Beam Etching of GaAs," J. Vac. Sci. & Technol. B, Vol. 8, No. 5, pp. 1075-79 (1990).
	C32	Y. Horiike et al., "High Rate and Highly Selective SiO <sub>2</sub> Etching Employing Inductively Coupled Plasma and Discussion on Reaction Kinetics," Journal Unknown, pp. 801-809 (received Oct. 27, 1994; Accepted Mar. 17, 1995).
	C33	Kaga, T. et al., "Crown-Shaped Capacitor Cell for 1.5 V Operation 65 Mb DRAMs," IEEE Transactions on Electronic Devices, Vol. 38, No. 2, pp. 255-61 (1991).
	C34	K.H. Kusters et al., "A Self Aligned Contact Process with Improved Surface Planarization," Journal de Physique, Vol. 49, Colloque C4, Suppl. 9, C4503-06 (1988).
	C35	L.M. Loewenstein, "Selective Etching of Silicon Nitride Using Remote Plasmas of CF <sub>4</sub> and SF <sub>6</sub> ," J. Vac. Sci. & Tech, Vol. 7, No. 3, pp. 686-90 (1989).
	C36	L.M. Loewenstein, "Temperature Dependence of Silicon Nitride Etching by Atomic Fluorine," American Institute of Physics, Vol. 65, No. 1, pp. 386-87 (1989).
	C37	K. Machida & H. Oikawa, "SiO <sub>2</sub> Planarization Technology with Biasing and Electron Cyclotron Resonance Plasma Deposition for Submicron Interconnections," J. Vacuum Sci. & Tech. B, Vol. 4, pp. 818-21 (1986).
	C38	J. Marks et al., "Introduction of a New High Density Plasma Reactor Concept for High Aspect Ratio Oxide Etching," SPIE, Vol. 1803, pp. 235-47 (1992).
	C39	S.J. Moss et al., eds. "Plasma Etching", in <i>The Chemistry of the Semiconductor Industry</i> , New York, Blackie & Son Ltd., Ch. 15, pp. 343-90 (1987).
	C40	K. Nojiri et al., "Microwave Plasma Etching of Silicon Dioxide for Half-Micron ULSIs," in <i>Extended Abstracts of the 21<sup>st</sup> Conference on Solid State Devices and Materials</i> , pp. 153-56 (Tokyo 1989).
	C41	H. Norström et al., "RIE of SiO <sub>2</sub> in Doped and Undoped Fluorocarbon Plasmas," Vacuum, Vol. 32, No. 12, pp. 737-45 (1982).

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Exam. Init.	Ref. Des.	Citation
gag	C42	T. Ohiwa et al., "SiO <sub>2</sub> Tapered Etching Employing Magnetron Discharge of Fluorocarbon Gas," Jpn. J. App. Physics., Vol. 31, Pt. 1, No. 2A, pp. 405-10 (1992).
	C43	Preliminary Invalidity Contentions regarding Parent Patent 5,286,344, filed in <i>Sandisk Corp. v. Micron Tech., Inc.</i> , Civ. No. CV02-2627CW (N. D. Cal. Dec. 6, 2002).
	C44	Preliminary Invalidity Contentions regarding Parent Patent 6,015,760, filed in <i>Sandisk Corp. v. Micron Tech., Inc.</i> , Civ. No. CV02-2627CW (N. D. Cal. Nov. 21, 2002).
	C45	Preliminary Invalidity Contentions regarding Parent Patent 6,287,978, filed in <i>Sandisk Corp. v. Micron Tech., Inc.</i> , Civ. No. CV02-2627CW (N. D. Cal. Dec. 6, 2002).
	C46	P.E. Riley & D.A. Hanson, "Comparison of Etch Rates of Silicon Nitride, Silicon Dioxide, and Polycrystalline Silicon Upon O <sub>2</sub> Dilution of CF <sub>4</sub> Plasmas," J. Vacuum Sci. & Tech. B, Vol. 7, No. 6, pp. 1352-56 (1989).
	C47	P.E. Riley et al., "Formation of Contacts in a Planarized SiO <sub>2</sub> /Si <sub>3</sub> N <sub>4</sub> /SiO <sub>2</sub> Dielectric Structure," J. Electrochemical Soc., Vol. 139, No. 9, pp. 2613-16 (Sept. 1992).
	C48	T. Sakai et al., "Examination of Selective Etching and Etching Damage with Mass-Selected Ion Beam," 1993 Dry Process Symposium, pp. 193-198 (1993).
	C49	S. Samukawa, "Time-Modulated Electron Cyclotron Resonance Plasma Discharge for Controlling Polymerization in SiO <sub>2</sub> Etching," Jpn. J. Applied Phys., Vol. 32, Pt. 1, No. 12B, pp. 6080-87 (Dec. 1993).
	C50	M. Sato et al., "Suppression of Microloading Effect by Low-Temperature SiO <sub>2</sub> Etching," Jpn. J. Applied Phys., Vol. 31, No. 12B, pp. 4370-75 (Dec. 1992).
	C51	J. P. Simko & G.S. Oehrlein, "Reactive Ion Etching of Silicon and Silicon Dioxide in CF <sub>4</sub> Plasmas Containing H <sub>2</sub> or C <sub>2</sub> F <sub>4</sub> Additives," J. Electrochem. Soc., Vol. 138, No. 9, pp. 2748-52 (1991).
	C52	H. Toyoda et al., "Etching Characteristics of SiO <sub>2</sub> in CHF <sub>3</sub> Gas Plasma," J. Electronic Mat., Vol. 9, No. 3, pp. 569-84 (1980).
gag	C53	E.A. Truesdale et al., "The Effect of Added Acetylene on the RF Discharge Chemistry of C <sub>2</sub> F <sub>6</sub> , A Mechanistic Model for Fluorocarbon Plasmas," J. Applied Physics, Vol. 51, No. 5, pp. 2909-13 (1980).

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gag	C54	J.L. Vossen & J.J. Cuomo, "Glow Discharge Sputter Deposition," in <i>Thin Film Processes</i> , J.L. Vossen & W. Kern, eds., Academic Press, New York, Ch. II-1, pp. 11-73 (1978).
	C55	S. Watanabe, "Plasma Cleaning by Use of Hollow-Cathode Discharge in a $\text{CHF}_3$ - $\text{SiO}_2$ Dry-Etching System," <i>Jpn. J. Appl. Physics</i> , Vol. 31, pp. 1491-98 (1992).
	C56	Y. Nagahiro, "Self Aligned Contact Development Activity Increases Aimed for Large Scale Manufacturing Around 0.25 Mm Era Problem of Etching Technology: Improvement of $\text{Si}_3\text{N}_4$ Selectivity Ratio," <i>Nikkei Microdevices, LSI Update</i> , pp. 54-61 (Feb. 1995).
	C57	G.Z. Yin et al., "High-Selectivity Plasma Etching of Silicon Dioxide on Single-Wafer Etchers," <i>J. Vacuum Sc. &amp; Tech. A</i> , Vol. 7, No. 3, pp. 691-95 (1989).
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gag	C66	Y. Ishigaki et al., "Low Parasitic Resistance Technologies with NES-SAC and SWT-CDV Process for Low Supply Voltage, High Speed BiCMOS SRAMS," 1994 Symposium on VLSI Technology Digest of Technical Papers, p. 99-100 (1994).

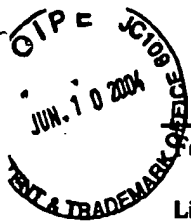
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Form PTO-1449 (modified)

Atty. Docket No.  
102-0072US-4Serial No.  
09/923,058List of Patents and Publications for Applicant's  
INFORMATION DISCLOSURE STATEMENTInventor/Applicant:  
Becker, et al. / Micron Technology, Inc.Title: METHODS FOR ENHANCING SILICON  
DIOXIDE TO SILICON NITRIDE  
SELECTIVITY (*as previously amended*)

(Use several sheets if necessary)

Filing Date:  
08/06/01Group:  
1763

## Other Art (Including Author, Title, Date Pertinent Pages, Etc.)

Exam. Init.	Ref. Des.	Citation
	C67	J.H. Kim et al., "The Effects of CH <sub>3</sub> F Addition to Carbon-rich Chemistry on Nitride Barrier SAC Etching for 1G DRAM and Beyond," 43 <sup>rd</sup> National AVS Symposium, pp. 133 (Oct. 14-18, 1996) (Abstract).
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List of Patents and Publications for Applicant's

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Becker, et al. / Micron Technology, Inc.

Title: METHODS FOR ENHANCING SILICON  
DIOXIDE TO SILICON NITRIDE  
SELECTIVITY (*as previously amended*)Filing Date:  
08/06/01Group:  
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## U.S. Patent Documents

Exam. Init.	Ref. Des.	Document Number	Date	Name	Class	Sub Class	Filing Date of App.
<i>gag</i>	A82	3,653,898	4/4/72	Shaw	96	35	
	A83	3,904,454	9/9/75	Magdo et al.	156	11	
	A84	4,135,954	1/23/79	Chang et al.	148	187	
	A85	4,243,435	1/6/81	Barile et al.	148	1.5	
	A86	4,696,097	9/29/87	McLaughlin et al.	437	193	
	A87	4,832,789	5/23/89	Cochran et al.	156	644	
	A88	4,837,176	6/6/89	Zdebel et al.	437	31	
	A89	4,030,967	6/21/77	Ingrey et al.	156	643	
	A90	4,671,849	6/9/87	Chen et al.	156	643	
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	A92	6,399,514	6/4/02	Marks et al.	438	729	8/24/00
	A93	4,883,767	11/28/89	Gray et al.	437	41	
	A94	4,962,058	10/9/90	Cronin et al.	437	187	
	A95	5,136,124	8/4/92	Cronin et al.	174	261	9/19/1990
	A96	5,169,802	12/8/92	Yeh	437	195	6/17/91
	A97	5,189,506	2/23/93	Cronin et al.	257	752	6/3/92
	A98	5,354,711	10/11/94	Heitzmann et al.	437	182	7/8/93
<i>gag</i>	A99	6,171,974	1/9/01	Marks et al.	438	740	1/24/92

## Foreign Patent Documents

Exam. Init.	Ref. Des.	Document Number	Date	Country	Class	Sub Class	Translation Yes/No
	B.	n/a					

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## Other Art (Including Author, Title, Date Pertinent Pages, Etc.)

Exam. Init.	Ref. Des.	Citation
	C77	<del>Various Japanese abstracts (untranslated) 8p P-14, 8p P-15, 8a R-1</del>
	C78	<del>Various Japanese abstracts (untranslated) 7p T-14, 7p T-15, 7p T-16</del>
gag	C79	H. Enomoto & T. Tokunaga, "Analysis of Mechanisms of Highly Selective Oxide Etching," 1994 Dry Process Symposium, pp. 241-46 (Nov. 10-11, 1994, Tokyo). ✓
	C80	Y. Gotoh & T. Kure, "Analysis of Polymer Formation During SiO <sub>2</sub> Microwave Plasma Etching," 1994 Dry Process Symposium, pp. 211-16 (Nov. 10-11, 1994, Tokyo). ✓
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	C84	Reply and Counterclaims in Reply to Counterclaim and Demand for Jury Trial, Motorola, Inc. v. Micron Technology, Inc., Civ. No. 04 CA 007 LY (Apr. 7, 2004) (W.D. Tex.). ✓
gag	C85	J.L. Yeh et al., "Reverse Pillar—A Self-Aligned and Self-Planarised Metallisation Scheme for Sub-Micron Technology," Vacuum: Technology, Applications & Ion Physics, Vol. 38, Nos. 8-10, pp. 817-821 (1988). ✓

\* These references are not properly cited. They lack reference to the publication date, author, and the source of this material for each of the abstracts printed in Japanese. This information should be provided to the examiner in English on a 1449 form for review by the examiner.

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